

## CLIMATE & ECONOMIC DEVELOPMENT PROJECT SOUTHERN CALIFORNIA



<http://cedp.scag.ca.gov>

### DRAFT Southern California Association of Governments Catalog of Transportation Infrastructure Investment (TII) GHG Reduction Policy Options

A catalog of greenhouse gas (GHG)–reducing actions and policy options based on actions undertaken or considered in climate change action plans by multi-stakeholder groups in a wide cross-section of U.S. states and by state, local, and private participants.

#### Key to Nominal Rankings of Options in the Tables That Follow:

Potential GHG Emission Reductions <sup>1</sup>	Potential Cost or Cost Savings <sup>1, 2</sup>
<b>High (H):</b> At least 1.0 million metric tons (MMt) carbon dioxide equivalent (CO <sub>2</sub> e) per year by 2030	<b>High (H):</b> \$100 per metric ton CO <sub>2</sub> e (tCO <sub>2</sub> e) or above
<b>Medium (M):</b> From 0.1 to 1.0 MMtCO <sub>2</sub> e per year by 2030	<b>Medium (M):</b> \$0 to \$100/tCO <sub>2</sub> e
<b>Low (L):</b> Less than 0.1 MMtCO <sub>2</sub> e per year by 2030	<b>Low (L):</b> Less than \$0/tCO <sub>2</sub> e
<b>Uncertain (U):</b> Insufficient information to estimate at this time	<b>Uncertain (U):</b> Insufficient information to estimate at this time
<sup>1</sup> Several measures may overlap in terms of emissions reductions and/or cost impacts. “Stand-Alone” estimates provide values for measures that would be implemented independently of other measures, before accounting for potential overlap or synergies	
<sup>2</sup> Costs are denoted by a positive number. Cost savings (i.e., “negative costs”) are denoted by a negative number.	

**Definition of “Priorities for Analysis”:**

- **High:** High-priority options will be analyzed first.
- **Medium:** Medium-priority options will be analyzed next, time and resources permitting.
- **Low:** Low-priority options will be analyzed last, time and resources permitting.

***Important Note: The actions are numbered in this catalog solely for convenience in referencing them. Their numbers do NOT reflect a ranking or prioritization of the actions.***

## Transportation Infrastructure Investment (TII)

*Note that this listing will be developed more fully during the Transportation System and Infrastructure TWG process. TWG members are encouraged to provide input on policies and programs currently in place to assist in defining baseline conditions. The “Notes” column may be used to record recently enacted policies and programs.*

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reduction	Cost per Ton	Externalities, Feasibilities Considerations	Priority for Analysis	Notes / Related Actions
<b>TII-1. BIKE AND PEDESTRIAN INFRASTRUCTURE</b>						
1.1	Bike and Pedestrian Infrastructure					
1.2	Walkable and Bike Policy					
1.3	Road-trail Connectivity					
1.4	Promote Pedestrian Traffic					
1.5	Sidewalk Construction					
1.6	Trail Improvement Project					
1.7	Local Bicycle Plan Amendments					
1.8	Bicycle Priority Zone					
1.9	Increase Number of Bike Racks					
1.10	Construct Bike Lanes					
1.11	Construct Regional Bikeways					
1.12	Connect Transit and Biking Systems					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reduction	Cost per Ton	Externalities, Feasibilities Considerations	Priority for Analysis	Notes / Related Actions
1.13	Upgrade Bike Transportation System					
1.14	Create Signature Bike Projects/Programs					
1.15	Facilitate increased Biking Opportunities					
1.16	Traffic Calming Measures					
1.17	Adopt and Implement Complete Streets Policy					
1.18	Pedestrian/Bicycle Connectivity					
1.19	Develop Pedestrian Connectors					
1.20	Grade-separated Crossings					
1.21	Pedestrian Only Streets/Plazas					
1.22	Continuous Separated Sidewalks					
1.23	Bike/Walk Paths to Parks					
1.24	Bicycle Facilities					
1.25	Bicycle Parking					
1.26	Street Standards for Bicycle Parking					
1.27	Bicycle Facilities in New Development					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reduction	Cost per Ton	Externalities, Feasibilities Considerations	Priority for Analysis	Notes / Related Actions
1.28	Weather Protected Bicycle Parking					
1.29	Changing Rooms, Lockers and Showers					
1.30	Bicycle and Pedestrian Trails					
<b>TII-2. FREIGHT INFRASTRUCTURE</b>						
2.1	Intermodal Freight Initiatives					
2.2	Feeder Barge Container Services					
2.3	Increase Rail Capacity and Address Rail Freight System Bottlenecks					
2.4	Shift Freight Movements From Truck to Rail					
2.5	Designated Truck Lanes					
2.6	Highway-Rail Grade Separations					
2.7	Airborne Transportation Modes					
<b>TII-3. PARKING INFRASTRUCTURE</b>						
3.1	Park-and-Ride Lots					
3.2	Improve Parking Regulations					
3.3	Flexible Parking for Streetscape					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reduction	Cost per Ton	Externalities, Feasibilities Considerations	Priority for Analysis	Notes / Related Actions
3.4	Parking Spaces					
3.5	Designated Ride-share Parking					
3.6	Electric & Alternative Infrastructure					
3.7	Charging Access in New Development					
<b>TII-4. ROAD INFRASTRUCTURE</b>						
4.1	Transit Priority (Signal Priority, HOV Lanes)					
4.2	High-Occupancy Vehicle Lanes					
4.3	Van Pooling and Car Pooling Incentives					
4.4	Traffic Calming					
4.5	Energy Efficient Lighting along Transportation Corridors					
4.6	Pavement Management					
4.7	Feeder and Distributor Systems – Orbital Routes					
4.8	Smart Streets					
4.9	Electrical Charging Stations					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reduction	Cost per Ton	Externalities, Feasibilities Considerations	Priority for Analysis	Notes / Related Actions
4.10	Major CO <sub>2</sub> /VMT Reduction Strategies					
4.11	Electric Vehicles					
4.12	Implement Automated Speed Enforcement					
4.13	Install Ramp Meters					
4.14	Mixed-Flow Lanes					
4.15	Expand HOT Lanes and Toll Road Systems					
4.16	Arterial Improvements					
4.17	High Speed Regional Transport System					
4.18	Expand the Intelligent Traffic Corridor Program					
4.19	Reduce Pavement Widths					
4.20	Include Parkway Strips					
4.21	Cool Roofs and Paving					
4.22	Pervious Pavement Standards					
4.23	Road Width					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reduction	Cost per Ton	Externalities, Feasibilities Considerations	Priority for Analysis	Notes / Related Actions
4.24	Green Highway Design					
4.25	Variable Speed Limits on Freeways					
<b>TII-5. PUBLIC TRANSIT INFRASTRUCTURE</b>						
5.1	Transit Marketing, Promotion, and Pricing Incentives					
5.2	Expand Transit Infrastructure (Rail, Bus, Bus Rapid Transit)					
5.3	Commuter Transit					
5.4	Intercity Bus Transit					
5.5	Bus Rapid Transit					
5.6	Light Rail Transit					
5.7	Create Regional Multimodal Transportation Centers					
5.8	Targeted Infrastructure Growth					
5.9	Bus Fleet Measures					
5.10	Replacement of Bus Fleets					
5.11	Regional Policies on Replacement of Transit Equipment					
5.12	Station Cars					



Option No.	GHG Reduction Policy Option	Potential GHG Emission Reduction	Cost per Ton	Externalities, Feasibilities Considerations	Priority for Analysis	Notes / Related Actions
5.13	Feeder-Distributor Services					
5.14	Converting Car Beaches to Mixed Use Development					
5.15	Reactivation and Use of Unused or Lightly Used Rail ROW					
5.16	Support Extension of Rail Line					
5.17	Village Trolley – Trial Basis					
5.18	Enhance Bus Stops					
5.19	Efficient, Convenient Bus Stops					
5.20	Bus Stop Signage & Access					
5.21	Safe, Clean, Lighted Bus Stops					
5.22	Public Transport – Hours of Service					
5.23	Public Transport – Route Structure					
5.24	Public Transport – Coordination of Routes					
5.25	Improve Transit Service (Frequency, Convenience, and Quality)					
5.26	Transit Oriented Infrastructure Development in Infill Corridors					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reduction	Cost per Ton	Externalities, Feasibilities Considerations	Priority for Analysis	Notes / Related Actions
5.27	Provide Loading, Unloading & Waiting Areas					
5.28	Employer-Based and Activity Center Provided Transit					
5.29	Heavy Rail Subway					

**Acronyms**

ASTM = American Society of Testing Materials

ATVs = all-terrain vehicles

B2 = fuel mixture of 2% biodiesel and 98% gasoline

BRT = Bus Rail Transit

CCI = Cross-Cutting Issues

CO<sub>2</sub> = carbon dioxide

CMAQ = Congestion Management and Air Quality

DOT = U.S. Department of Transportation

E10 = fuel mixture of 10% ethanol and 90% gasoline

EPA = U.S. Environmental Protection Agency

GHG = greenhouse gas

HOT = high-occupancy toll

HOV = high-occupancy vehicle

LCF = low-carbon fuel

LRT = light rail transit

LEED = Leadership in Energy and Environmental Design

MPG = miles per gallon

MPO = metropolitan planning organization

R&amp;D = research and development

RFS = renewable fuel standard

ROW = right of way

SLR = sea level rise  
TIF = tax increment financing  
TDRs = transferable development rights  
TRU = truck refrigeration unit  
TWG = Technical Work Group  
VMT = vehicle miles traveled